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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,190	10/29/2001	Kousei Sano	MTS-2530US1	6251

7590 12/31/2007  
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EXAMINER
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HARRINGTON, ALICIA M

ART UNIT	PAPER NUMBER
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2873

MAIL DATE	DELIVERY MODE
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12/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/003,190

**Applicant(s)**

SANO ET AL.

**Examiner**

Alicia M. Harrington

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9, 11-21, 24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 11-20 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. The Examiner has carefully reviewed the elected claims 9, 11-21. The Examiner realizes that claim 21 is broader version of claim 24 and thus should be examined with claim 24. Since claim 24 is a non-elected group, claim 21 is further withdrawn from consideration. Thus the restriction has been updated to the following:

Restriction to one of the following inventions is required under 35 U.S.C. 121"

I. Claims 9-20 are, drawn to an aperture lens, classified in class 359, subclass 738.

II. Claims 21 and 24 are, drawn to an optical system for a position detector, classified in class 369, subclass 44.41.

2. Applicant's election without traverse of claims 9, 11-20, and 26 in the reply filed on 10/11/07 is acknowledged.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9,11-20,26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9 and 12 were amended to include the following recitation:

“an imaginary region is bi-symmetrical with said first opening about an axis passing through the center of said lens, said imaginary region is entirely included within said second opening”. However, the Examiner can only examine real parts to an apparatus. Thus the claims are indefinite.

Claims 9, 11-20, 26 will be examined as best understood by the Examiner.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Debasis (USN 4940308).

Regarding claim 12, Debasis discloses a aperture provided lens comprising aperture having a first opening (48) and a second opening (42) corresponding to the body of the lens (38), wherein a diffraction device (see col. 2 and col. 3) is provided for at least one of said openings (44), a second diffraction device (on 46) is set in a region other than said first opening and said second opening, and the percentage of the luminous energy penetrating without being diffracted by the second diffraction device is 5 percent or less (see col. 3, lines 10-22)- the openings are mutually exclusive- each region is it own diffraction region.

5. A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 9-11, 15, 18, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Komma et al (US 5,815,293).

Regarding claim 9, Komma discloses an aperture provided lens comprising an aperture having a first opening and a second opening correspondingly to the body of a lens (33), wherein a diffraction device is provided for at least one of said openings (see figure 15; col. 34, lines 57-67 and col. 35, lines 1-22; 32A (central 32 and peripheral 33a-33d or 33a and 33d- where a first opening doesn't include the central the axis and second opening is axial symmetric to the first opening and mutually exclusive).

Regarding claim 10, Komma discloses the aperture-provided lens according to claim 9, wherein said second opening is larger than said first opening (see figure 15a).

Regarding claim 11, Komma discloses the aperture-provided lens according to claim 10, wherein said first opening has diffraction device, the direction in which light is diffracted by said diffraction device is assumed as a first direction, the direction perpendicular to said first direction in the plane of said first opening is assumed as a second direction, and the length corresponding to said first direction of said second opening is larger than

the length corresponding to said second direction of said second opening- a length across the circumference grating region.

Regarding claim 15, see col. 34, 57-67 and col. 35, lines 1-22.

Regarding claim 18, see figure 15A-15C.

Regarding claim 19, see figure 15.

7. Claims 9, 10, 13, 14, 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Mukai et al (US 5,995,286).

Regarding claims 9 and 18, Mukai discloses an aperture provided lens comprising an aperture having a first opening and a second opening correspondingly to the body of a lens, wherein a diffraction device is provided for at least one of said openings (see figure 2,9,10-central and peripheral regions) wherein the first opening does not include a central axis of the lens and the second opening is on the same plane and axial symmetric (for example see figure 10- first opening-region3 and second opening central and mutually exclusive).

Regarding claim 10, Mukai discloses the aperture-provided lens according to claim 9, wherein said second opening is larger than said first opening (for example central and peripheral regions).

Regarding claim 13, see figure 10.

Regarding claim 14, the peripheral region has a smaller grating interval.

Regarding claim 16, the peripheral and central regions each have a flat part. The normal of the flat part are not parallel to each. For example, the flat part of region 2 of figure 10 is on the top surface of the triangle.

Regarding claim 17, the peripheral region has a greater pitch/interval than the center-  
see col. 9

Regarding claim 19, see figure 10.

Regarding claim 20, Mukai discloses the aperture-provided lens according to claim 19, wherein said aperture-provided lens is made of resin.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571 272 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alicia M Harrington  
Primary Examiner  
Art Unit 2873

AMH